

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Ankur Bhatt et al.	Art Unit :	3689
Serial No. :	10/648,108	Examiner :	Debra L. Antonienko
Filed :	August 26, 2003	Conf. No. :	3166

Title : DESIGNING BUSINESS CONTENT FOR REPORTING

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

BRIEF ON APPEAL

**(1) Real Party in Interest**

SAP Aktiengesellschaft, the assignee of this application, is the real party in interest.

**(2) Related Appeals and Interferences**

A related appeal is pending for U.S. Patent Application No. 10/699,170, Appeal No. 2009-010934.

**(3) Status of Claims**

Claims 1-4, 9-13, 15-22, 27-31, and 33-37 are pending. Claims 5-8, 14, 23-26, and 32 have been cancelled. The pending claims stand rejected under 35 U.S.C. § 103(a) in the final Office Action of April 14, 2010 (“the final office action”). Claims 1, 18, and 19 are independent.

Applicants appeal the rejections of all pending claims 1-4, 9-13, 15-22, 27-31, and 33-37.

**(4) Status of Amendments**

No amendments have been filed after the final office action. A listing of the current claims is included in the Appendix of Claims provided with this Appeal Brief.

**(5) Summary of Claimed Subject Matter**

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I hereby certify that this paper was filed with the Patent and Trademark Office using the EFS-WEB system on this date: October 07, 2010

Applicants' claimed subject matter relates generally to techniques for designing business content for object-based reports or charts to be reported in an external general reporting application. Spec. 6:15-17. More specifically, the claimed subject relates to designing business content and delivering it to a reporting tool application, where the business content can involve a design-time phase and a run-time phase. Spec. 13:3-5. Tools used in the design-time phase provide the user with an ability to select business objects and associated business objects and use them in the creation of a report. Spec. 13:14-21.

Independent claim 1 is directed to a "computer-implemented method of providing object-based content to be reported in an external computer-implemented general reporting application." For example, the computer system 10 is described with respect to FIG. 1 as being configured to serve as an environment in which the business content provider may operate. Spec. 7:7-17.

The method recites steps of "providing an electronic storage repository of business database objects ...," "receiving, in a data processing system comprising at least one computer, a user selection of one of the business database objects...," "displaying on a display device a view...," "receiving in the data processing system a user selection of at least one of the displayed one or more attributes ... and a user selection of at least one of the displayed attributes ... and adding the selected attributes to an electronic business content structure of selected attributes," "defining a report layout...," "executing a query of records in an electronic database and retrieving ... attribute data for each of the attributes in the electronic business content structure," "generating, in the data processing system and before reporting run-time, an output electronic file ... the report to include the electronic business content structure and the attribute data ...," "determining ... reporting applications for use in generating the report," and "launching the determined reporting application ... and generating the report ..."

Claim 1 recites "providing an electronic storage repository of business database objects from which object instances are able to be generated, which business database objects each have one or more attributes for which applicable data are able to be provided for a generated object instance." For example, the business objects and/or business queries are described as being stored as files 145 within ROM 65 at client computer system 10 with regard to FIG. 1. Spec. 9:23-24.

Claim 1 recites “receiving, in a data processing system comprising at least one computer, a user selection of one of the business database objects, wherein generated instances of the selected object have data for attributes of the object.” For example, a business content selection module 205 is described with regard to FIG. 2 permits a user to define a business content structure of meta-data information for a report or chart. Spec. 11:1-11. Step 905, in regard to FIG. 9, also describes the receipt of a user selection of a business object having associated attributes. Spec. 20:17-22.

Claim 1 recites “displaying on a display device a view that includes: i) the selected business database object in a first portion of the view, ii) at least some of the attributes associated with the selected business database object in a second portion of the view, iii) a plurality of business objects each having associated attributes, wherein each of the business objects has a defined relationship to the selected business database object in a third portion of the view, and iv) at least some of the attributes for the plurality of related business objects in a fourth portion of the view.” For example, the display 400 is described with regard to FIG. 4 has having four tiles, 405, 415, 425, and 435, wherein the tiles separately display a selected business object, a collection of business object attributes, a collection of related objects, and a collection of attributes for a related object. Spec. 15:24-16:19.

Claim 1 recites “receiving in the data processing system a user selection of at least one of the displayed one or more attributes associated with the selected business database object, and a user selection of at least one of the displayed attributes for the plurality of related business objects, and adding the selected attributes to an electronic business content structure of selected attributes.” For example, step 915 in regard to FIG. 9 is described as receiving a user selection of at least one of the attributes, and the selected attribute is added to a business content structure of selected attributes at step 920. Attributes of related business objects can also be added to the business content structure. Spec. 21:4-11.

Claim 1 recites “defining a report layout using the electronic business content structure and the selected attributes, wherein the report layout defines the structure of one or more reports.” For example, in the description of step 920 with regard to FIG. 9, the business content structure can include layout information, such as table-specific information, for a report. Spec. 21:12-21.

Claim 1 recites “executing a query of records in an electronic database and retrieving, for each of the records that meet the query, attribute data for each of the attributes in the electronic business content structure.” For example, step 925 is described with regard to FIG. 9 as retrieving data associated with the business content structure by fetching the business content structure, interpreting the collection, and constructing database queries such as SQL queries. Spec. 21:22-22:7.

Claim 1 recites “generating, in the data processing system and before reporting run-time, an output electronic file that the external computer-implemented reporting application can use to generate a report, the report to include the electronic business content structure and the attribute data associated therewith, and to be structured according to the report layout.” For example, at step 930 as described with regard to FIG. 9, an output file is generated for use in an external reporting application, wherein the output file includes business content structure information and the data associated with it. Spec. 21:8-16.

Claim 1 recites “determining, at the reporting run-time, one of a plurality of external computer-implemented reporting applications for use in generating the report.” For example, the business content provider component 25 is described with regard to FIG. 2 as having an external interaction component module 225 that determines which reporting tool application will be used to generate the report, and interacts with a corresponding reporting tool interface component 230. Spec. 12:3-7.

Claim 1 recites “launching the determined reporting application using the output electronic file and generating the report in the determined reporting application according to the previously defined report layout.” For example, the external interaction component module 225 is described with regard to FIG. 2 as passing the common data structure to the appropriate reporting tool interface component 230, which then forwards it to the associated reporting application for report generation. Spec. 12:7-21.

Independent claim 18 is directed to a “computer-implemented method of providing object-based content to be reported in an external computer-implemented general reporting application.” For example, example, the computer system 10 is described with respect to FIG. 1 as being configured to serve as an environment in which the business content provider may operate. Spec. 7:7-17.

Claim 18 recites “receiving, in a data processing system comprising at least one computer, a user selection of a business database object having associated attributes, wherein generated instances of the selected object have data for the associated attributes.” For example, a business content selection module 205 is described with regard to FIG. 2 permits a user to define a business content structure of meta-data information for a report or chart. Spec. 11:1-11. Step 905, in regard to FIG. 9, also describes the receipt of a user selection of a business object having associated attributes. Spec. 20:17-22.

Claim 18 recites “displaying on a display device a view that includes: i) the selected business database object in a first portion of the view, ii) at least some of the attributes associated with the selected business database object in a second portion of the view, iii) a plurality of business objects each having associated attributes, wherein each of the business objects has a defined relationship to the selected business database object in a third portion of the view, and iv) at least some of the attributes for the plurality of related business objects in a fourth portion of the view.” For example, the display 400 is described with regard to FIG. 4 has having four tiles, 405, 415, 425, and 435, wherein the tiles separately display a selected business object, a collection of business object attributes, a collection of related objects, and a collection of attributes for a related object. Spec. 15:24-16:19.

Claim 18 recites “receiving in the data processing system a user selection of at least one of the displayed attributes associated with the selected business database object, and a user selection of at least one of the displayed attributes for the plurality of related business objects, and adding the selected attributes to an electronic business content structure of selected attributes.” For example, step 915 in regard to FIG. 9 is described as receiving a user selection of at least one of the attributes, and the selected attribute is added to a business content structure of selected attributes at step 920. Attributes of related business objects can also be added to the business content structure. Spec. 21:4-11.

Claim 18 recites “persistently storing the electronic business content structure in an electronic database so that it can later be retrieved and used to generate, before reporting run-time, an output file that the external computer-implemented general reporting application can use to generate a report with current data.” For example, the business objects and/or business

queries are described as being stored as files 145 within ROM 65 at client computer system 10 with regard to FIG. 1. Spec. 9:23-24.

Claim 18 recites “defining a report layout using the electronic business content structure and the selected attributes, wherein the report layout defines the structure of one or more reports.” For example, in the description of step 920 with regard to FIG. 9, the business content structure can include layout information, such as table-specific information, for a report. Spec. 21:12-21.

Independent claim 19 is directed to a “computer-readable medium with program instructions stored thereon that when executed perform the following functions for providing object-based content to be reported in an external computer-implemented general reporting application.” For example, the computer system 10 is described with respect to FIG. 1 as having a ROM 65 that provides non-volatile data storage for various application programs 85, 90, etc., that have program instructions that may be loaded into RAM 60 and executed by the processor 55 to perform the desired program functions. ROM 65 further includes reporting tool applications 95, 100, 105, etc. Spec. 8:14-9:5.

Claim 19 recites “provides an electronic storage repository of business database objects from which object instances are able to be generated, which business database objects each have one or more attributes for which applicable data are able to be provided for a generated object instance.” For example, the business objects and/or business queries are described as being stored as files 145 within ROM 65 at client computer system 10 with regard to FIG. 1. Spec. 9:23-24.

Claim 19 recites “receives, in a data processing system comprising at least one computer, a user selection of one of the business database objects, wherein generated instances of the selected object have data for attributes of the object.” For example, a business content selection module 205 is described with regard to FIG. 2 permits a user to define a business content structure of meta-data information for a report or chart. Spec. 11:1-11. Step 905, in regard to FIG. 9, also describes the receipt of a user selection of a business object having associated attributes. Spec. 20:17-22.

Claim 19 recites “displays on a display device a view that includes: i) the selected business database object in a first portion of the view, ii) at least some of the attributes associated

with the selected business database object in a second portion of the view, iii) a plurality of business objects each having associated attributes, wherein each of the business objects has a defined relationship to the selected business database object in a third portion of the view, and iv) at least some of the attributes for the plurality of related business objects in a fourth portion of the view.” For example, the display 400 is described with regard to FIG. 4 has having four tiles, 405, 415, 425, and 435, wherein the tiles separately display a selected business object, a collection of business object attributes, a collection of related objects, and a collection of attributes for a related object. Spec. 15:24-16:19.

Claim 19 recites “receives in the data processing system a user selection of at least one of the displayed one or more attributes associated with the selected business database object, and a user selection of at least one of the displayed attributes for the plurality of related business objects, and adding the selected attributes to an electronic business content structure of selected attributes.” For example, step 915 in regard to FIG. 9 is described as receiving a user selection of at least one of the attributes, and the selected attribute is added to a business content structure of selected attributes at step 920. Attributes of related business objects can also be added to the business content structure. Spec. 21:4-11.

Claim 19 recites “defines a report layout using the electronic business content structure and the selected attributes, wherein the report layout defines the structure of one or more reports.” For example, in the description of step 920 with regard to FIG. 9, the business content structure can include layout information, such as table-specific information, for a report. Spec. 21:12-21.

Claim 19 recites “executes a query of records in an electronic database and retrieves, for each of the records that meet the query, attribute data for each of the attributes in the electronic business content structure.” For example, step 925 is described with regard to FIG. 9 as retrieving data associated with the business content structure by fetching the business content structure, interpreting the collection, and constructing database queries such as SQL queries. Spec. 21:22-22:7.

Claim 19 recites “generates, in the data processing system and before reporting run-time, an output electronic file that the external computer-implemented reporting application can use to generate a report, the report to include the electronic business content structure and the attribute

data associated therewith, and to be structured according to the report layout.” For example, at step 930 as described with regard to FIG. 9, an output file is generated for use in an external reporting application, wherein the output file includes business content structure information and the data associated with it. Spec. 21:8-16.

Claim 19 recites “determines, at the reporting run-time, one of a plurality of external computer-implemented reporting applications for use in generating the report.” For example, the business content provider component 25 is described with regard to FIG. 2 as having an external interaction component module 225 that determines which reporting tool application will be used to generate the report, and interacts with a corresponding reporting tool interface component 230. Spec. 12:3-7.

Claim 19 recites “launches the determined reporting application using the output electronic file and generates the report in the determined reporting application according to the previously defined report layout.” For example, the external interaction component module 225 is described with regard to FIG. 2 as passing the common data structure to the appropriate reporting tool interface component 230, which then forwards it to the associated reporting application for report generation. Spec. 12:7-21.

#### **(6) Grounds of Rejection to be Reviewed on Appeal**

Claims 1, 3, 4, 9-12, 15-17, 19, 21, 22, 27-30, and 33-37 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Thompson et al. (US 6,668,253) in view of Kesler (US 7,062,502). Claims 2 and 20 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Thompson in view of Kesler and further in view of SAMS Teach Yourself Microsoft Access 2000 (hereinafter referred to as Access). Claims 13 and 31 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Thompson in view of Kesler and further in view of Bata et al. (US 6,901,403). Claim 18 is rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Thompson et al. (US 6,668,253). Applicants appeal the rejection of claims 1-4, 9-13, 15-22, 27-31, and 33-37.

#### **(7) Argument**



For the following reasons, Applicants respectfully assert that the present claims are patentable over the references of record, and request that the above rejections be reversed.

**I. The Examiner erred by concluding that Thompson suggests the “third portion of the view,” and the “fourth portion of the view.”**

The Examiner acknowledges that Thompson does not disclose the view with first, second, third and fourth portions, as recited in claim 1, but nevertheless alleges that it would have been “an obvious matter of design choice to modify Thompson to obtain the formatting as specified in claim 1.” Final office action, pages 3-4.

Applicant respectfully disagrees. Thompson does not suggest at least the third and fourth portions of the view according to claim 1. Particularly, the third portion includes “a plurality of business objects each having associated attributes, wherein each of the business objects has a defined relationship with a selected business database object,” and the fourth portion includes “at least some of the attributes for the plurality of related business objects.”

First, the Examiner alleges that Thompson teaches displaying on a display device selected business objects with attributes and associated business objects with attributes, and that items are selected from the component view to put into the layout view. *See* final office action, page 3.

However, the text pointed to by the Examiner actually states that the “...reporting and analysis capabilities provide the ability to identify relationships among data and to compare and contrast data sets...” (emphasis added). Final office action, page 3. Moreover, Thompson describes FIG. 3 as having “one to four reports or graphs,” but does not teach that business database objects should be placed in one of the reports based on a defined relationship with a selected business database object as claimed. Thompson, 8:35-45. In other words, the illustrated view that the Examiner relies on shows four reports or graphs, not four view portions in which the user can, from a selected business database object and related business database objects, choose among attributes and related attributes for use in building a report.

There is also no teaching or suggestion in Thompson that the screen illustrated in Thompson's FIG. 7 should include attributes that are related to attributes of an object that the

user has selected. FIG. 7 shows a report wizard where a user selects the data element named "Cars in Stock." *See* Thompson, 11:3-9. However, even if it were assumed for the sake of argument that this suggests the first and second portions of the view in the present subject matter, Thompson still fails to suggest the third and fourth portions, because Thompson does not display to the user the data elements that have a defined relationship to the selected data element.

Nowhere does the Thompson reference disclose or suggest the view with at least the third and fourth portions as recited in claim 1. The other independent claims include language similar to that in claim 1 discussed above. The Kesler reference was cited as allegedly showing "determining, at the reporting run-time, one of a plurality of external computer-implemented reporting applications for use in generating the report," and "launching the determined reporting application using the output electronic file and generating the report in the determined reporting application according to the previously defined report layout." Final office action, page 5. Without conceding the correctness of this characterization, Applicant submits that Kesler does not disclose or suggest the features lacking in the Thompson reference, and the Examiner did not so contend either.

For at least the forgoing reasons, Applicants submit that the final office action's rejection of the independent claims under 35 U.S.C. § 103(a) is in error. As such, Applicants respectfully request that the Board overturn the rejection of independent claims 1, 18, and 19, as well as the rejections of the dependent claims 2-4, 9-14, 15-17, 20-22, 27-31, and 33-37.

## **II. The Examiner erred by concluding that Thompson's EIM extraction teaches "generating... an output electronic file."**

The Examiner alleges that Thompson's FIGS. 12-14 depict "generating in the data processing system and before reporting run-time, an output electronic file that the external computer-implemented reporting application can use to generate a report, the report to include the electronic business content structure and the attribute data associated therewith, and to be structured according to the report layout." Final office action, page 5. However, in relation to FIGS. 12-14, Thompson says that "[i]n FIGS. 12-21, which describe the load related operations, each box represents a transform." Thompson 21:36-37. The cited figures appear to illustrate a

process of extracting data for storage in a data warehouse, wherein information stored in separate locations is extracted and stored in a centralized database. However, Thompson does not state or suggest that extracting or storing the information should involve generating “an output electronic file that the external computer-implemented reporting application can use to generate a report, the report to include the electronic business content structure and the attribute data associated therewith, and to be structured according to the report layout.” As such, the Examiner has not shown that Thompson teaches or suggests the output file recited in claim 1.

Nowhere does the Thompson reference disclose or suggest “generating, in the data processing system and before reporting run-time, an output electronic file that the external computer-implemented reporting application can use to generate a report, the report to include the electronic business content structure and the attribute data associated therewith, and to be structured according to the report layout,” as recited in claim 1. Independent claim 19 recites the same language as that just quoted for claim 1. Independent claim 18 recites generation of “an output file that the external computer-implemented general reporting application can use to generate a report with current data.” Thomson therefore does not render claim 18 unpatentable at least for this reason. With regard to independent claims 1 and 18, Kesler does not disclose or suggest this feature that is lacking in the Thompson reference, and the Examiner did not so contend either.

### **Conclusion**

For at least the forgoing reasons, Applicants submit that the Office Action's rejection of the claims under 35 U.S.C. § 103(a) is in error. As such, Applicants respectfully request that the Board overturn the rejection of independent claims 1, 18, and 19, as well as the rejections of the dependent claims 2-4, 9-14, 15-17, 20-22, 27-31, and 33-37.

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### **Conclusion**

Accordingly, for at least the above reasons, Applicants request that the Board overturn the rejections of the pending claims 1-4, 9-13, 15-22, 27-31, and 33-37.

The brief fee of \$540 is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: October 7, 2010 \_\_\_\_\_

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## **Appendix of Claims**

1. A computer-implemented method of providing object-based content to be reported in an external computer-implemented general reporting application, the method comprising:

providing an electronic storage repository of business database objects from which object instances are able to be generated, which business database objects each have one or more attributes for which applicable data are able to be provided for a generated object instance;

receiving, in a data processing system comprising at least one computer, a user selection of one of the business database objects, wherein generated instances of the selected object have data for attributes of the object;

displaying on a display device a view that includes: i) the selected business database object in a first portion of the view, ii) at least some of the attributes associated with the selected business database object in a second portion of the view, iii) a plurality of business objects each having associated attributes, wherein each of the business objects has a defined relationship to the selected business database object in a third portion of the view, and iv) at least some of the attributes for the plurality of related business objects in a fourth portion of the view;

receiving in the data processing system a user selection of at least one of the displayed one or more attributes associated with the selected business database object, and a user selection of at least one of the displayed attributes for the plurality of related business objects, and adding the selected attributes to an electronic business content structure of selected attributes;

defining a report layout using the electronic business content structure and the selected attributes, wherein the report layout defines the structure of one or more reports;

executing a query of records in an electronic database and retrieving, for each of the records that meet the query, attribute data for each of the attributes in the electronic business content structure;

generating, in the data processing system and before reporting run-time, an output electronic file that the external computer-implemented reporting application can use to generate a report, the report to include the electronic business content structure and the attribute data

associated therewith, and to be structured according to the report layout;

determining, at the reporting run-time, one of a plurality of external computer-implemented reporting applications for use in generating the report; and

launching the determined reporting application using the output electronic file and generating the report in the determined reporting application according to the previously defined report layout.

2. The method of claim 1 wherein a business content design wizard assists in defining the electronic business content structure.

3. The method of claim 1 wherein the electronic business content structure represents meta-data information.

4. The method of claim 1 further comprising displaying on the display device a view of a plurality of electronic business content structures and receiving a user selection of one of the electronic business content structures to be included in a report.

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. The method of claim 1 further comprising defining a calculated field to be included in the electronic business content structure, wherein the calculated field is associated with a function that takes one or more business object attributes as input, and uses a formula to compute a resultant value for the calculated field based on the input.

10. The method of claim 9 wherein the electronic business content structure represents meta-data information.
11. The method of claim 9 wherein the resultant value is included in the output electronic file.
12. The method of claim 1 further comprising persistently storing the electronic business content structure in an electronic database.
13. The method of claim 12 wherein the electronic business content structure is stored as an XML document in the electronic database, and wherein the electronic business content structure attributes correspond to tags in the XML document.
14. (Canceled)
15. The method of claim 1 wherein the database query is an SQL query that uses the concept of derived tables.
16. The method of claim 1 wherein the output electronic file is an ActiveX Data Object Recordset.
17. The method of claim 1 wherein generating the output electronic file that the external computer-implemented reporting application can use to generate the report further comprises transferring the output electronic file to a reporting-tool-specific interface component capable of plug-and-play interaction with the external computer-implemented reporting application.
18. A computer-implemented method of providing object-based content to be reported in an external computer-implemented general reporting application, the method comprising:

receiving, in a data processing system comprising at least one computer, a user selection of a business database object having associated attributes, wherein generated instances of the selected object have data for the associated attributes;

displaying on a display device a view that includes: i) the selected business database object in a first portion of the view, ii) at least some of the attributes associated with the selected business database object in a second portion of the view, iii) a plurality of business objects each having associated attributes, wherein each of the business objects has a defined relationship to the selected business database object in a third portion of the view, and iv) at least some of the attributes for the plurality of related business objects in a fourth portion of the view;

receiving in the data processing system a user selection of at least one of the displayed attributes associated with the selected business database object, and a user selection of at least one of the displayed attributes for the plurality of related business objects, and adding the selected attributes to an electronic business content structure of selected attributes;

persistently storing the electronic business content structure in an electronic database so that it can later be retrieved and used to generate, before reporting run-time, an output file that the external computer-implemented general reporting application can use to generate a report with current data; and

defining a report layout using the electronic business content structure and the selected attributes, wherein the report layout defines the structure of one or more reports.

19. Computer-readable medium with program instructions stored thereon that when executed perform the following functions for providing object-based content to be reported in an external computer-implemented general reporting application:

provides an electronic storage repository of business database objects from which object instances are able to be generated, which business database objects each have one or more attributes for which applicable data are able to be provided for a generated object instance;

receives, in a data processing system comprising at least one computer, a user selection of one of the business database objects, wherein generated instances of the selected object have data for attributes of the object;



displays on a display device a view that includes: i) the selected business database object in a first portion of the view, ii) at least some of the attributes associated with the selected business database object in a second portion of the view, iii) a plurality of business objects each having associated attributes, wherein each of the business objects has a defined relationship to the selected business database object in a third portion of the view, and iv) at least some of the attributes for the plurality of related business objects in a fourth portion of the view;

receives in the data processing system a user selection of at least one of the displayed one or more attributes associated with the selected business database object, and a user selection of at least one of the displayed attributes for the plurality of related business objects, and adding the selected attributes to an electronic business content structure of selected attributes;

defines a report layout using the electronic business content structure and the selected attributes, wherein the report layout defines the structure of one or more reports;

executes a query of records in an electronic database and retrieves, for each of the records that meet the query, attribute data for each of the attributes in the electronic business content structure;

generates, in the data processing system and before reporting run-time, an output electronic file that the external computer-implemented reporting application can use to generate a report, the report to include the electronic business content structure and the attribute data associated therewith, and to be structured according to the report layout;

determines, at the reporting run-time, one of a plurality of external computer-implemented reporting applications for use in generating the report; and

launches the determined reporting application using the output electronic file and generates the report in the determined reporting application according to the previously defined report layout.

20. The medium of claim 19 wherein a business content design wizard assists in defining the electronic business content structure.

21. The medium of claim 19 wherein the electronic business content structure represents meta-data information.

22. The medium of claim 19 further comprising instructions that when executed displays on the display device a view of a plurality of electronic business content structures and receives a user selection of one of the electronic business content structures to be included in a report.

23. (Canceled)

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. The medium of claim 19 further comprising instructions that when executed defines a calculated field to be included in the electronic business content structure, wherein the calculated field is associated with a function that takes one or more business object attributes as input, and uses a formula to compute a resultant value for the calculated field based on the input.

28. The medium of claim 27 wherein the electronic business content structure represents meta-data information.

29. The medium of claim 27 wherein the resultant value is included in the output electronic file.

30. The medium of claim 19 further comprising instructions that when executed persistently stores the electronic business content structure in an electronic database.

31. The medium of claim 30 wherein the electronic business content structure is stored as an XML document in the electronic database, and wherein the electronic business content structure attributes correspond to tags in the XML document.

32. (Canceled)

33. The medium of claim 19 wherein the database query is an SQL query that uses the concept of derived tables.

34. The medium of claim 19 wherein the output electronic file is an ActiveX Data Object Recordset.

35. The medium of claim 19 wherein generating the output electronic file that the external computer-implemented reporting application can use to generate the report further comprises transferring the output electronic file to a reporting-tool-specific interface component capable of plug-and-play interaction with the external computer-implemented reporting application.

36. The method of claim 1, further comprising displaying a pictorial representation of the selected business database object and one or more of the related business objects.

37. The medium of claim 19, further comprising instructions that when executed display a pictorial representation of the selected business database object and one or more of the related business objects.

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### **Evidence Appendix**

NONE.

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### **Related Proceedings Appendix**

NONE.